ENVIRONMENTAL ASSESSMENT FOR THE VILLAGE OF FLOSSMOOR STORM SEWER IMPROVEMENT PROJECT FLOSSMOOR, ILLINOIS SECTION 219, WRDA 1992, AS AMENDED

April 2021

U.S. Army Corps of Engineers Chicago
District, Planning Branch
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Chicago, Illinois 60604

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DRAFT FINDING OF NO SIGNIFICANT IMPACT
VILLAGE OF FLOSSMOOR
STORM SEWER IMPROVEMENT PROJECT
FLOSSMOOR, ILLINOIS

The U.S. Army Corps of Engineers, Chicago District (USACE) has conducted an environmental analysis in accordance with the National Environmental Policy Act of 1969, as amended. The draft Environmental Assessment (EA) dated April 9, 2021, for the Village of Flossmoor Storm Sewer Improvement Project addresses the need to increase stormwater conveyance to reduce flooding in the Berry Lane corridor in Flossmoor, Illinois. The final recommendation is contained in the letter report dated April XX, 2021.

The draft EA, incorporated herein by reference, evaluated an alternative that would reduce flood risk in the project area. The tentatively selected plan is Alternative 1, which includes:

- Construct 865 feet of 48-inch diameter storm sewer;
- Construct 1,248 feet of 54-inch diameter storm sewer;
- Construct 500 feet of 60-inch diameter concrete storm sewer;
- Install 14 manholes;
- Install 18 storm catch basins;
- Replace the existing pavement on Berry Lane with 30,580 square feet of permeable interlocking concrete pavers if funding is available.

In addition to a "no action" plan, one alternative was evaluated. The alternative included construction of new concrete storm sewer infrastructure and associated manholes and storm catch basins and replacing pavement with permeable interlocking concrete pavers.

For the alternative, the potential effects were evaluated, as appropriate. A summary assessment of the potential effects of the recommended plan are listed in the below table:

Summary of Potential Effects of the Tentatively Selected Plan

	Insignificant effects	Insignificant effects as a result of mitigations	Resource unaffected by action	Positive Effects
Aesthetics	☒	☐	☐	☐
Air quality	☒	☐	☐	☐
Aquatic resources/wetlands	☐	☐	☒	☐
Terrestrial communities	☐	☐	☒	☐
Invasive species	☐	☐	☒	☐
Threatened/Endangered species/critical habitat	☐	☐	☒	☐
Historic properties	☐	☐	☒	☐
Other cultural resources	☐	☐	☒	☐
Floodplains	☐	☐	☒	☐
Hazardous, toxic & radioactive waste	☐	☐	☒	☐
Hydrology	☐	☐	☐	☒
Land use	☐	☐	☒	☐
Navigation	☐	☐	☒	☐
Noise levels	☒	☐	☐	☐
Public infrastructure	☐	☐	☐	☒

Socioeconomics	☐	☐	☐	☒
Environmental justice	☐	☐	☐	☒
Soils	☒	☐	☐	☐
Tribal trust resources	☐	☐	☒	☐
Water quality	☐	☐	☒	☐
Climate change	☐	☐	☒	☐

All practicable and appropriate means to avoid or minimize adverse environmental effects were analyzed and incorporated into the recommended plan. Best management practices (BMPs) as detailed in the EA would be implemented, if appropriate, to minimize impacts.

No compensatory mitigation is required as part of the tentatively selected plan.

Public review of the draft EA and FONSI will completed in April 2021. All comments received during the public comment period will be addressed in the Final EA and FONSI.

Pursuant to section 7 of the Endangered Species Act of 1973, as amended, the U.S. Army Corps of Engineers determined the recommended plan would have "no effect" on federally listed species or their designated critical habitat. On December 14, 2020 USFWS responded to the USACE scoping letter via email stating that a portion of the proposed right-of-way activities are mapped as "High Potential Zone" (HPZ) for the rusty patches bumble bee (RPBB), but that not all areas within the HPZ provide suitable habitat for the RPBB including paved areas and frequently mowed areas. Finally, the email states that if the project area is contained to areas not suitable for the RPBB, then a "no effect" determination is warranted. Since the project area is contained to paved and frequently mowed areas, a "no effect" determination is warranted in this case. In the IDNR letter that was received December 14, 2020, they stated that they have no objections to the project as described.

Pursuant to section 106 of the National Historic Preservation Act of 1966, as amended, the U.S. Army Corps of Engineers determined that no historic properties will be affected by the proposed project. Illinois State Historic Preservation Officer concurred with the determination in a letter dated April 5, 2021.

Technical, environmental, economic, and cost effectiveness criteria used in the formulation of alternative plans were those specified in the Water Resources Council's 1983 Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies. All applicable laws, executive orders, regulations, and local government plans were considered in evaluation of the alternatives. Based on this report, the reviews by other Federal, State and local agencies, Tribes, input of the public, and the review by my staff, it is my determination the recommended plan would not cause significant adverse effects on the quality of the human environment; therefore, preparation of an Environmental Impact Statement is not required.

Date: _____

_____

Paul B. Culberson
Colonel, U.S. Army
District Commander

VILLAGE OF FLOSSMOOR
STORM SEWER IMPROVEMENT PROJECT
FLOSSMOOR, ILLINOIS

DRAFT ENVIRONMENTAL ASSESSMENT

April 2021

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List of Acronyms

APE	Area of Potential Effects
BMP	Best Management Practice
EcoCAT	Ecological Compliance Assessment Tool
ECOS-IPaC	Environmental Conservation Online System Information for Planning and Consultation
FEMA	Federal Emergency Management Agency
FONSI	Finding of No Significant Impact
HPZ	High Potential Zone
HTRW	Hazardous, toxic, and radioactive waste
IDNR	Illinois Department of Natural Resources
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NLEB	Northern Long-Eared Bat
NOAA	National Oceanic and Atmospheric Administration
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
RPBB	Rust Patched Bumblebee
SHPO	State Historic Preservation Office
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
WRDA	Water Resources Development Act

CHAPTER 1 – PURPOSE AND NEED

1.1 Purpose

The purpose of the proposed project is to provide improvements to a portion of the Village of Flossmoor's storm sewer infrastructure to reduce roadway and residential flooding along Berry Lane in Flossmoor, Illinois.

1.2 Need for Action

The Village of Flossmoor, located in Cook County, Illinois, experiences frequent roadway and residential flooding along Berry Lane between Flossmoor Avenue and Bob O' Link Road because there is no storm drain infrastructure in this area. Flooding during moderate to heavy rainfall events poses safety concerns for motorists and pedestrians and results in property damage due to overland flow and basement backups.

1.3 Authority

The study is authorized under Section 219 of the Water Resources Development Act (WRDA) of 1992, as amended by Section 108 of the Consolidated Appropriations Act of 2001, and Section 142 of the Energy and Water Appropriations Act of 2004. These amended authorities allow the U.S. Army Corps of Engineers (USACE) to provide planning, design, and construction assistance for water-related environmental infrastructure projects.

1.4 Non-federal Sponsor

The project's non-federal sponsor is the Village of Flossmoor in Flossmoor, Illinois.

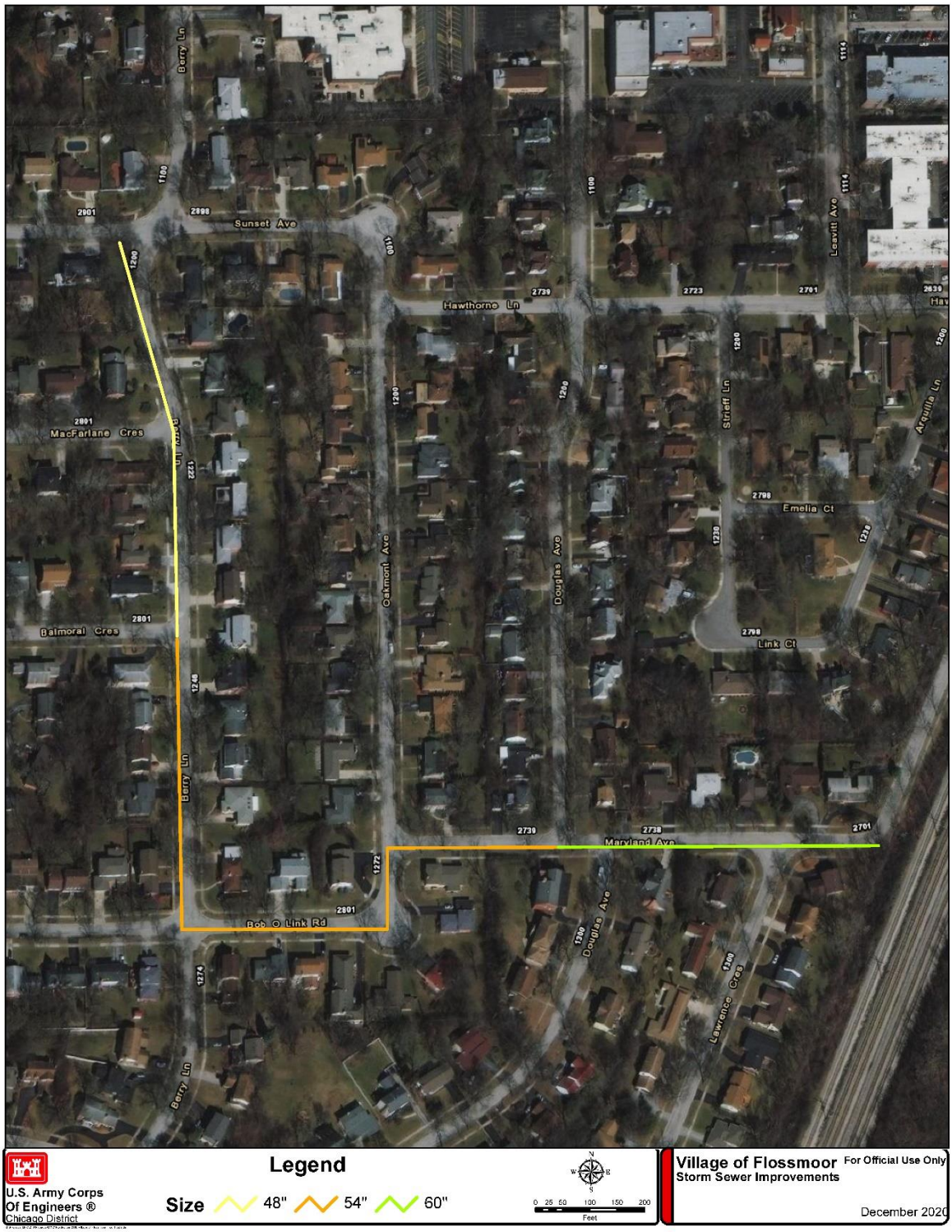

Figure 1: Location of the Flossmoor, Illinois Storm Sewer Improvement Project Area.

CHAPTER 2 – PROPOSED ACTION AND ALTERNATIVES

2.1 Alternative 1

Alternative 1 would include construction of 865 feet of 48-inch diameter concrete storm sewer, 1,248 feet of 54-inch diameter concrete storm sewer, and 500 feet of 60-inch diameter concrete storm sewer, 14 manholes, and 18 storm catch basins along Berry Lane, Bob 'O Link Road, Oakmont Avenue, and Maryland Avenue extending to Sterling Avenue where it would connect with an existing storm sewer. The proposed action would also include the option to replace the existing pavement on Berry Lane with 30,580 square feet of permeable interlocking concrete pavers if funding is available.

2.2 No Action Alternative

Under the no action alternative, USACE would not provide funding for the project and the Village of Flossmoor would not reduce the risk of flooding in the Berry Lane area. Without this proposed project, flooding would likely continue and result in property damage and safety hazards. However, the no action alternative is included in the alternatives analysis to establish a baseline condition for existing human and natural environmental conditions to allow comparison between future without and with project actions.

2.3 Tentatively Selected Plan

The tentatively selected plan is Alternative 1. The tentatively selected plan includes constructing a new storm sewer trunk to provide stormwater drainage to the Berry Lane area and constructing permeable pavement. Alternative 1 was selected as the tentatively selected plan because it provides a higher level of flood protection in the project vicinity.

2.4 Compliance with Environmental Protection Statutes, Executive Orders, and Regulations

The proposed action is in full compliance with appropriate statutes, executive orders and regulations, including the National Historic Preservation Act of 1966, as amended, Fish and Wildlife Coordination Act, as amended, Endangered Species Act of 1973, as amended, Section 10 of Rivers and Harbors Act of 1899, Clean Air Act of 1963, as amended, NEPA of 1969, as amended, Executive Order 12898 (Environmental Justice), Executive Order 11990 (Protection of Wetlands), Executive Order 11988 (Floodplain Management), and the Clean Water Act of 1972, as amended.

CHAPTER 3 – ENVIRONMENTAL SETTING AND CONSEQUENCES

This section discusses the existing conditions by resource category and any potential environmental impacts associated with the no action alternative as well as with implementation of Alternative 1.

USACE took context and intensity into consideration in determining potential impact significance, as defined in 40 CFR part 1508.27. The intensity of a potential impact is the impact's severity and includes consideration of beneficial and adverse effects, the level of controversy associated with a project's impacts on human health, whether the action establishes a precedent for future actions with significant effects, the level of uncertainty about project impacts and whether the action threatens to violate Federal, state, or local laws established for the protection of the human and natural environment. The severity of an environmental impact is characterized as none/negligible, minor, moderate, significant, or beneficial. The impact may also be short-term or long-term in nature.

- None/negligible – No measurable impacts are expected to occur.

- Minor – A measurable and adverse effect to a resource. A slight impact that may not be readily obvious and is within accepted levels for permitting, continued resource sustainability, or human use. Impacts should be avoided and minimized if possible but should not result in a mitigation requirement.

- Significant – A measurable and adverse effect to a resource. A major impact that is readily obvious and is not within accepted levels for permitting, continued resource sustainability, or human use. Impacts likely result in the need for mitigation.

- Adverse – A measurable and negative effect to a resource. May be minor to major, resulting in reduced conditions, sustainability, or viability of the resource.

- Beneficial – A measurable and positive effect to a resource. May be minor to major, resulting in improved conditions, sustainability, or viability of the resource.

- Short-Term – Temporary in nature and does not result in a permanent long-term beneficial or adverse effect to a resource. For example, temporary construction-related effects (such as, an increase in dust, noise, traffic congestion) that no longer occur once construction is complete. May be minor, significant, adverse or beneficial in nature.

- Long-Term – Permanent (or for most of the project life) beneficial or adverse effects to a resource. For example, permanent conversion of a wetland to a parking lot. May be minor, significant, adverse or beneficial in nature.

USACE used quantitative and qualitative analyses, as appropriate, to determine the level of potential impact from proposed alternatives. Based on the results of the analyses, this EA identifies whether a particular potential impact would be adverse or beneficial, and to what extent.

This section discusses the existing conditions by resource category and any potential environmental impacts associated with the implementation of Alternative 1 and the no action alternative.

3.1 Project Area

The project area is within the Village of Flossmoor, Cook County, Illinois. The Storm Sewer Improvement project area is within the roadway right-of-way along Berry Lane, Bob O Link Road, Oakmont Avenue, and Maryland Avenue and is bound by Flossmoor Road to the north, Sterling Avenue to the east, Bob O Link Road to the south, and Berry Lane to the west (Figure 1).

3.2 Physical Resources

3.2.1 Climate

The climate of the study area is predominantly continental with some modifications by Lake Michigan. The National Oceanic and Atmospheric Administration's (NOAA) Online Weather Data was queried for the Chicago Area since the closest local climatology reporting locations to the project areas are in eastern Illinois. Daily and monthly normal for temperature, precipitation, and snowfall between 1981 and 2010 were available (NOAA 2020) (Figure 2). The mean winter high temperature is 31.0°F while the mean winter low temperature is 16.5°F (January). The mean summer high temperature is 84.1°F while the mean summer low temperature is 63.9°F (July). Annual total precipitation normal for the Chicago area is 36.9 inches. In winter, total snowfall is generally heavy with an annual total snowfall normal of 36.3 inches. The majority of snowfall occurs between December and February with total snowfall normal ranging from 8.2 inches (i.e., December) to 9.1 inches (i.e., February) during this timeframe.

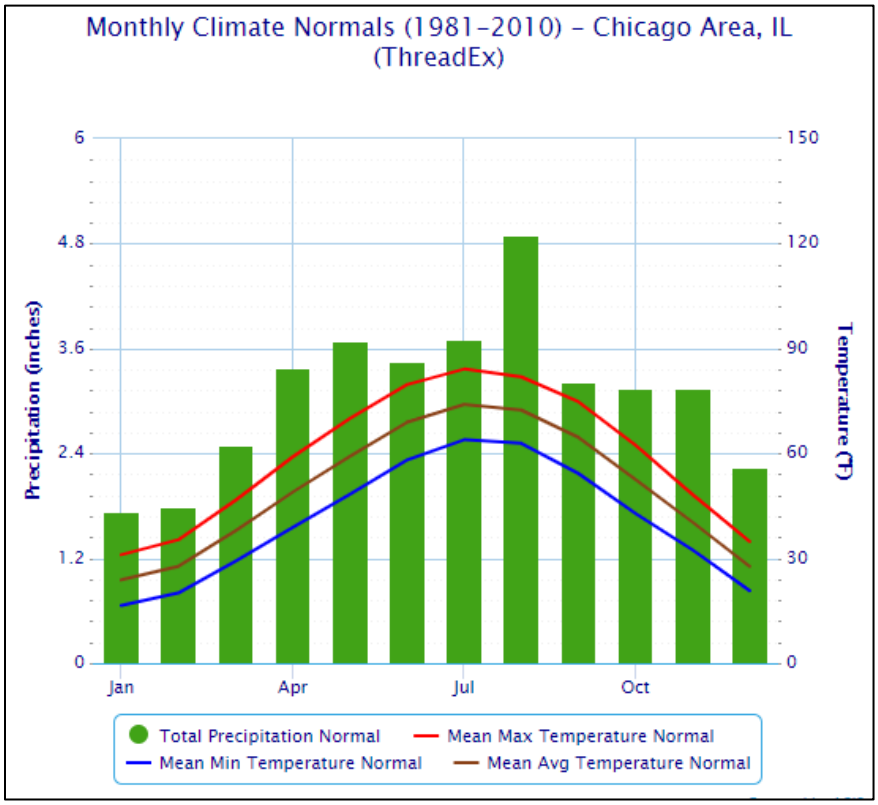

Figure 2: Normal Precipitation and Temperature for the General Project Areas between 1981 and 2010 (NOAA 2020).

Only short duration, minor discharges of carbon-based pollutants would occur during construction activities that could contribute to greenhouse gases. Long-term climate trends indicate that the Chicago area will continue to see increased flooding in urban areas due to more intense precipitation events.

Alternative 1 would not adversely impact climate, but it would help to offset the impacts of a changing climate within the project area by reducing the risk of flooding.

The no action alternative would not adversely impact climate or climate change and it would not help to offset the impacts of a changing climate. Therefore, increased flooding would be likely over time.

3.2.2 Geology & Soils

Geology – Glaciation within the Chicago region ended about 13,000 years ago when the glaciers receded from the area for the last time. In the Chicago region, the most common type of bedrock is a magnesium-rich limestone called dolomite that was originally deposited on reefs set in shallow seas during the Silurian period about 400 million years ago. The youngest bedrock in the Chicago region dates from the Pennsylvania period about 300 million years ago. Surface features in the region are all made of material deposited by the glaciers or by the lakes that appeared as the glaciers melted. In some places, these deposits are nearly 400 feet thick.

Soils – The U.S. Department of Agriculture Natural Resource Conservation Service's web soil survey was queried for soils present within the project areas. According to the web soil survey for the project area, there are two types of soil comprising the project area: Orthents, clayey, undulating (98.1% of mapped area; map unit 805B) and Markham-Ashkum-Beecher (1.9% of mapped area; map unit 854B) (Figure 3). The Orthents soils that make up a majority of the project area are moderately well drained soils formed on lake plains. Orthents are defined as entisols that lack horizon development. The Markham-Ashkum-Beecher complex consists of 40 percent Markham Series, 30 percent Ashkum Series, 25 percent Beecher Series, and 5 percent minor components. These soils are moderately well to poorly drained soils that were formed on ground moraines or end moraines. Neither of the soils present in the project area are prime farmland soils.

Implementation of Alternative 1 would include excavation and ground disturbing activities; however, these activities would not impact any unique local geologic features as none are present within the area. The tentatively selected alternative does include the construction of new storm sewers, but the areas where excavation and construction would occur are within roadway rights of way and have been previously disturbed. Therefore, Alternative 1 would not have any direct or indirect short-term or long-term adverse impacts to local geological features or soils.

No impacts to geologic features or soils are anticipated as part of the no action alternative.

Figure 3: NRCS Map of Soils Within the Flossmoor Storm Sewer Improvements Project Area (NRCS 2020).

3.2.3 Water Quality

The nearest water resource is Butterfield Creek which is located approximately 3,000 feet southeast of the project area. The creek is approximately 15 miles long and discharges into Thorn Creek, which flows into the East Arm of the Little Calumet River and eventually the Calumet-Saganashkee Channel. Butterfield Creek is a highly altered urban stream that has been heavily impacted by floodplain development and urban runoff.

Butterfield Creek is listed as an impaired waterway in the 2018 Illinois 303d list (IEPA, 2021). Fecal coliform impairs primary contact recreation and hexachlorobenzene impacts aquatic life.

Indirect impacts associated with run-off and erosion due to installation of storm sewer may temporarily impact water quality in the area. Construction related impacts would be short-term and mitigated through the use of Best Management Practices (BMPs), such as placement of silt fences throughout the project area to prevent runoff into adjacent surface waters. Implementation of Alternative 1 would not result in significant adverse short or long-term environmental impacts to aquatic habitat and water quality.

Under the no action alternative, water quality in the project area would remain unchanged.

3.2.4 Air Quality

The Chicago Metropolitan area, including the study area, is a non-attainment area for ozone (and ozone precursors). Existing air quality data are available for Cook, DuPage, and Will counties from the USEPA Air Data database (USEPA, 2021). Although the trends show overall improvement over the last 10 years, individual measurements and monitoring stations still have measurements that exceed the national standards. The existing air quality should be considered marginal but improving over time.

Table 1: Chicago Area Status for NAAQS Six Criteria Pollutants (USEPA 2021).

NAAQS	Area Name	Most Recent Year of Nonattainment	Current Status	Classification
8-Hour Ozone (2015)	Chicago, IL-IN-WI	2021	Nonattainment	Marginal
8-Hour Ozone (2008)	Chicago-Naperville, IL-IN-WI	2021	Nonattainment	Serious
PM-10 (1987)	Southeast Chicago	2004	Maintenance (since 2005)	Moderate
PM-2.5 (1997)	Chicago-Gary-Lake County, IL-IN	2011	Maintenance (since 2012)	Former Subpart 1
Lead	Chicago, IL	2017	Maintenance (since 2018)	---

During project construction, construction equipment would cause negligible, temporary air quality impacts. All equipment used would be in compliance with current air quality control requirements for diesel exhaust, fuels, and similar requirements. Long-term, once constructed the project would be neutral in terms of air quality, with no features that either emit or sequester air pollutants to a large degree. Therefore, Alternative 1 would have negligible short-term and no direct or indirect long-term adverse impacts on air quality within Cook County. Due to the short and temporary nature of any air quality impacts, a general conformity analysis was not conducted.

No impacts to air quality are anticipated to occur as part of the no action alternative.

3.2.5 Land Use

Existing land use in the project area is comprised of the following categories: single family residential and infrastructure (e.g., utilities/transportation). The new storm sewer trunk installation project would occur within the roadway right of way. The City of Flossmoor zoning map designates the areas adjacent to the project area as R-5 single family residential.

Implementation of Alternative 1 is not in conflict with the Village of Flossmoor's designation as a roadway right of way or the adjacent R-5 land use. To the contrary, implementation of Alternative 1 is in support of the roadway because it provides stormwater drainage and reduces flooding of the roadway and surrounding residential properties. Alternative 1 would not change the designation of the area from single family residential to another land use category, nor would there be any conversion of another land use category (e.g., such as open space) to single family residential. Therefore, Alternative 1 would have no direct or indirect short-term or long-term adverse impacts on land use within the project area and is not in conflict with the land uses as designated by the Village of Flossmoor zoning ordinance.

No impacts to land use would occur as part of the no action alternative.

3.2.6 Floodplains

Executive Order 11988, as amended, requires Federal agencies to consider the potential effects of their proposed actions to floodplains. In order to determine the tentatively selected alternative's potential floodplain impact, the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM) were queried to determine if the proposed project area is located within a Special Flood Hazard Zone Area or Other Area of Flood Hazard. According to the Village of Flossmoor Flood Map (Area Number 17031C0741J), the proposed project is not located within the floodplain and the area has been designated as a Minimal Flood Hazard Area (FEMA 2021).

Underground infrastructure such as storm sewers would result in no adverse impact to floodplain areas as they would be buried and result in no change in grade or elevation. Alternative 1 meets the intent of EO 11988 and no significant impacts to floodplains are anticipated to occur from Alternative 1.

As no construction related activities would be implemented, no impacts to floodplains are anticipated to occur from the no action alternative.

3.2.7 Wetlands

National Wetland Inventory (NWI) maps were reviewed for the proposed project area and are included in Appendix B. NWI mapping did not identify any wetlands within the project area (USFWS 2021b).

No impacts to wetlands are anticipated as part of Alternative 1 or no action alternative.

3.3 Biological Resources

3.3.1 Aquatic Communities

<u>Fish</u>

The closest water resource to the project area is Butterfield Creek which is located approximately 3,000 feet southeast of the project area. The Butterfield Creek flows into Thorn Creek, which flows into the Little Calumet River. The Fishes of the Chicago Region Database (Veraldi, unpublished data) was queried for fish species that were collected from the East Branch of Butterfield Creek. No collections were made from the East Branch of Butterfield Creek; however, collections were made in the mainstem of Butterfield Creek just north of the project area. Therefore, the following species were collected from the mainstem of Butterfield Creek and are likely found in the East Branch of Butterfield Creek tributary: black bullhead (*Ameiurus melas*), yellow bullhead (*Ameiurus natalis*), creek chub (*Semotilus atromaculatus*), fathead minnow (*Pimephales promelas*), green sunfish (*Lepomis cyanellus*), Johnny darter (*Etheostoma nigrum*), largemouth bass (*Micropterus salmoides*), white sucker (*Catostomus commersoni*), golden shiner (*Notemigonus crysoleucas*), and central stoneroller (*Campostoma anamolum*). The common carp (*Cyprinus carpio*), a non-native species, has also been collected from Butterfield Creek.

Aquatic Macroinvertebrates

As discussed above, the closest water resource to the project area is the East Branch of Butterfield Creek which is located approximately 3,000 feet southeast of the project area. A survey of the macroinvertebrate community within the East Branch of Butterfield Creek was not readily available. Macroinvertebrate sampling has occurred within Thorn Creek, which the Butterfield Creek mainstem flows into. Substrate and habitat types found within Thorn Creek are similar to those found in Butterfield Creek and the East Branch of Butterfield Creek, therefore, the macroinvertebrates observed in Thorn Creek are likely present within Butterfield Creek and its tributaries. The following aquatic macroinvertebrates are likely to occur within the East Branch of Butterfield Creek and generally indicate good water quality: Flat worm (*Dugesia tigrina)*, Earthworm (*Oligochaeta)*, Leech (*Erpobdella punctate)*, Leech (*Mooreobdella fervida)*, Leech (*Helobdella stagnalis)*, Leech (*Helobdella triserialis)*, Isopod (*Caecidotea intermedius)*, Crayfish (*Orconectes virilis)*, Mayfly (*Baetis intercalaris)*, Mayfly (*Stenacron interpunctatum)*, Dragonfly (*Aeshna umbrosa)*, Damselfly (*Calopteryx maculate)*, Damselfly (*Argia apicalis)*, Little Sister Sedge Caddisfly (*Cheumatopsyche sp.)*, Caddisfly (*Hydropsyche depravata* complex), Caddisfly (*Hydropsyche sp).*, Caddisfly (*Hydropsychidae)*, Riffle Beetle (*Stenelmis crenata)*, Non-biting Midge (*Ablabesmyia mallochi)*, Non-biting Midge (*Brillia flavifrons)*, Non-biting Midge (*Brillia sp).*, Harlequin Fly (*Chironomus sp.)*, Non-biting Midge (*Conchapelopia sp.)*, Non-biting Midge (*Cricotopus bicinctus)*, Non-biting Midge (*Cryptochironomus sp.)*, Non-biting Midge (*Polypedilum fallax-gr.)*, Non-biting Midge (*Polypedilum illinoense-gr.)*, Non-biting Midge (*Polypedilum scalaenum-gr.)*, Non-biting Midge (*Polypedilum sp.)*, Non-biting Midge (*Rheocricotopus robacki)*, Non-biting Midge (*Thienemanniella xena)*, Striped Black Fly (*Similium vittatum* complex), Crane Fly (*Tipula sp.)*, Limpet (*Ferrissia sp.)*, Rusty Fossaria (*Fossaria sp.)*, Mud Amnicola (*Amnicola limosa)*, Asian Clam (*Corbicula flumineum)*, Arab Muslim (*Musclium secures)*, Little Mussel (*Musclium transversum)*, Ridgebeak Peaclam (*Pisidium compressum)*, Hydra (*Hydra sp.)*, and Beetle (*Peltodytes duodecimpunltus)* (Northeastern Illinois Planning Commission, 2005).

Implementation of Alternative 1 would have no direct or indirect short-term or long-term adverse impacts to aquatic communities. Construction of the tentatively selected alternative does not include any in-water work. In addition, the nearest water resource where an aquatic community exists is Butterfield Creek which is located approximately 3000 feet south east of the proposed project area. Both the USFWS and IDNR were contacted during the scoping process for the proposed project. The IDNR responded via letter (December 14, 2020), that they do not have any objections to the project described. Overall, since no in-water work would occur the tentatively selected alternative is not expected to have any direct or indirect short-term or long-term adverse impacts to aquatic resources.

As no construction related activities would be implemented, no impacts to aquatic communities are anticipated to occur from the no action alternative.

3.3.2 Terrestrial Communities

Reptiles and Amphibians

Due to the urban nature of the project areas, only common species of reptiles and amphibians would be expected to be present. Common species that may be in the general area of the Flossmoor Storm Sewer Improvements project area could include common garter snake (*Thamnophis sirtalis*), northern watersnake (*Nerodia sipedon*), eastern racer (*Coluber constictor*), American bullfrog (*Lithobates catesbeianus*), and snapping turtle (*Chelydra serpentina*).

Birds

The western shoreline of Lake Michigan is recognized as "one of the most important flyways for migrant songbirds in the United States by many ornithologists and birdwatchers worldwide" (Shilling and Williamson, BCN), and is considered globally significant. An estimated 5 million songbirds use the north-south shoreline of Lake Michigan as their migratory sight line every year. Although the project area is within the vicinity of Lake Michigan, and the project area is within the vicinity of Butterfield Creek, there is no significant bird habitat present within the project area. The project area is located within the vicinity of open space, residential, and infrastructure (e.g., Governors Highway and elevated railroad lines). Due to the noise associated with the adjacent Governors Highway and the elevated railroad lines, birds that may be present within the area would primarily be common species that are fairly habituated to human disturbance. Common species that may be observed include: American robin (*Turdus migratorius*), barn swallow (*Hirundo rustica*), blue jay (*Cyanocitta cristata*), Canada goose (*Branta canadensis*), downy woodpecker (*Picoides pubescens*), European starling (*Sturnus vulgaris*), house sparrow (*Passer domesticus*), mourning dove (*Zenaida macroura*), and northern cardinal (*Cardinalis cardinalis*).

Mammals

A list of mammals was assembled utilizing publications and available data that have potential to occur within the project areas. Large mammal habitat is degraded or non-extant within the study areas; however, coyote (*Canis latrans*) make up the large mammal potential for the area. Small mammals that have the potential to occur within the areas include common urban species such as black rat (*Rattus rattus*), Norwegian rat (*Rattus norvegicus*), eastern gray squirrel (*Sciurus carolinensis*), fox squirrel (*Sciurus niger*), eastern chipmunk (*Tamias striatus*), Virginia opossum (*Didelphis virginiana*), striped skunk (*Mephitis mephitis*), eastern cottontail (*Sylvagius floridanus*), and raccoon (*Procyon lotor*).

Construction of Alternative 1 would have no direct or indirect short-term or long-term adverse impacts to terrestrial communities. Construction of the preferred alternative occurs in a residential area next to infrastructure (e.g., Governors Highway, elevated railroad lines), therefore, only common species are anticipated to be present. The presence of construction equipment and construction activities is likely to disturb common terrestrial species and cause them to avoid the area in the short-term, however, this would be a negligible impact and the species would be expected to return to the area as soon as construction is complete.

Both the USFWS and IDNR were contacted during the scoping process for the proposed project. The IDNR responded via letter (December 14, 2020) that IDNR has no objections to the project described.

Since the project area is contained within paved and mowed area (roadway and parkway) Alternative 1 is not expected to have any direct or indirect short-term or long-term adverse impacts to RPBB or other terrestrial communities.

No impacts to terrestrial communities are anticipated to occur from the no action alternative.

3.3.3 Threatened and Endangered Species

Federal

A query of the U.S. Fish and Wildlife Service's (USFWS) Environmental Conservation Online System Information for Planning and Consultation (ECOS-IPaC) (Consultation Code 03E13000-2021-SLI-0346) on February 10, 2021 resulted in an official species list of federally-listed species that may be present within the project areas. Obtaining the official species list from ECOS-IPaC fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action". Ten federally listed threatened, endangered, or candidate species were identified as potentially occurring within the project area (**Error! Reference source not found.**). Critical habitat has been designated for the piping plover and the Hine's emerald dragonfly; however, the project location is outside the critical habitat area for both of these species.

Northern Long-eared Bat (NLEB)
Status. The NLEB (*Myotis septentrionalis*) is federally listed as threatened.

Distribution and Habitat. The NLEB's range includes much of the eastern and north central United States. The species' range contains 37 states, including Illinois. During the summer, NLEBs roost singly or in colonies underneath bark, in cavities or in crevices of both live trees and snags. Males and non-reproductive females may also roost in cooler places, like caves and mines. During the winter, NLEBs hibernate in caves and mines (USFWS 2015).

Potential for Occurrence. There are no known hibernacula within the vicinity of the project. There may be suitable roosting habitat present at the project location, although, roosting of the species at this location is not known. In addition, the riparian area around Butterfield Creek East Branch may provide suitable foraging habitat for this species. Although there are no known roosting locations within the project area, the forested area surrounding Butterfield Creek East Branch does provide potential roosting habitat as well as potential foraging habitat during summer for the NLEB. Therefore, there is the potential for the NLEB to occur within the project area.

Piping Plover
Status. The piping plover (*Charadrius melodus*) is federally listed as endangered.

Distribution and Habitat. Piping plovers are migratory birds. In the spring and summer, they breed in the northern United States and Canada. There are three locations where piping plovers nest in North American: the shorelines of the Great Lakes, the shores of rivers and lakes in the Northern Great Plains, and along the Atlantic Coast. In the fall, plovers migrate south and winter along the coast of the Gulf of Mexico or other southern locations. Piping plovers use wide, flat, open, sandy beaches with very little grass or other vegetation. Nesting territories often include small creeks or wetlands (USFWS 2001).

Potential for Occurrence. There is no suitable habitat within the vicinity of the project for this species. Therefore, the piping plover is not expected to occur within the project area.

Rufa Red Knot
Status. The rufa red knot (*Calidris canutus rufa*) is federally listed as threatened.

Distribution and Habitat. The rufa red knot nesting range centers in Canada north of the Arctic Circle.

Range during the winter primarily is in southern South America. The rufa red knot is known to migrate along the Great Lakes Flyway which includes the Chicago area. The migratory period for the species extends from May 1 through September 30. The rufa red knot uses different habitats for breeding, wintering, and migration. Breeding habitats are elevated and sparsely vegetated ridges or slopes. They are often adjacent to wetlands and lake edges for feeding. Wintering and migration habitats are often muddy or sandy coastal areas, such as the mouths of bays and estuaries, and tidal flats (NatureServe 2019).

Potential for Occurrence. Although the rufa red knot could potentially migrate through the area, there is no suitable habitat within the project area that the species would use. Nearest suitable habitat is the coast of Lake Michigan which is approximately 14 miles northeast of the project area.

Eastern Massasaugua
Status. The eastern massasauga (*Sistrurus catenatus*) is federally listed as threatened.

Distribution and Habitat. Eastern massasaugas live in an area that extends from central New York and southern Ontario to southcentral Illinois and eastern Iowa. Historically, the snake's range covered this same area, but within this large area the number of populations and numbers of snakes within populations have steadily shrunk. Generally, only small, isolated populations remain. Massasaugas live in wet areas including wet prairies, marshes, and low areas along rivers and lakes. In many areas massasaugas also use adjacent uplands during part of the year. They often hibernate in crayfish burrows but may also be found under logs and tree roots or in small mammal burrows.

Potential for Occurrence. There is no suitable habitat (e.g., fens, sedge meadows, peatlands, wet prairies, open woodlands, and shrublands) within the vicinity of the project for this species. Therefore, the eastern massasauga is not expected to occur within the vicinity of the project location.

Hine's Emerald Dragonfly
Status. The Hine's emerald dragonfly (*Somatochlora hineana*) is federally listed as endangered.

Distribution and Habitat. Historically, the Hine's emerald dragonfly was found in Alabama, Indiana, and Ohio and probably has been extirpated in those states. Today the dragonfly can only be found in Illinois, Michigan, Missouri, and Wisconsin. The Hine's emerald dragonfly lives in calcareous (high in calcium carbonate) spring-fed marshes and sedge meadows overlaying dolomite bedrock (USFWS 2006).

Potential for Occurrence. There is no suitable habitat within the vicinity of the project for this species. Therefore, the Hine's emerald dragonfly is not expected to occur within the project area.

Rusty Patched Bumblebee
Status. The rusty patched bumblebee (*Bombus affinis*) is a federally listed as endangered.

Distribution and Habitat. Grasslands with flowering plants from April through October, underground and abandoned rodent cavities or clumps of grasses above ground as nesting sites, and undisturbed soil for hibernating queens to overwinter. (USFWS 2020a).

Potential for Occurrence. The USFWS responded via email (December 14, 2020) that a portion of the proposed sewer right-of-way activities, along Maryland Avenue, is within an area mapped as "High Potential Zone" (HPZ) for the rusty patched bumble bee (RPBB). USFWS identifies HPZs using a habitat connectivity model that is based on RPBB occurrence records, typical bumble bee foraging distances, and potential RPBB dispersal movement through different categories of land use. Not all areas within an HPZ provide suitable habitat for theRPBB. Areas that meet the following descriptions are not likely to provide suitable habitat for the

RPBB for nesting, overwintering, or foraging. These areas include:

- permanently flooded areas/open water;
- paved areas;
- areas planted to annual row crops, such as corn and soybeans;
- forest where invasive shrubs are dominant and spring ephemeral flowers are absent; and,
- areas mowed too frequently to allow development of diverse wildflower resources (e.g., road shoulders).

Since the project area is contained within the paved road right of way and mowed areas there is no suitable habitat for this species within the project area.

Eastern Prairie Fringed Orchid
Status. The eastern prairie fringed orchid (*Platanthera leucophaea*) is federally listed as threatened.

Distribution and Habitat. The range of this species occurs mostly east of the Mississippi River in fewer than 60 sites in Illinois, Iowa, Maine, Michigan, Ohio, Virginia, Wisconsin, and in Ontario, Canada. The eastern prairie fringed orchid occurs in a wide variety of habitats, from mesic prairie to wetlands such as sedge meadows, marsh edges, even bogs. A symbiotic relationship between the seed and soil fungi, called mycorrhizae, is necessary for seedlings to become established (USFWS 2005a).

Potential for Occurrence. There is no suitable habitat within the vicinity of the project for this species. Therefore, the eastern prairie fringed orchid is not expected to occur within the project area.

Leafy Prairie-Clover
Status. The leafy prairie-clover (*Dalea foliosa*) is federally listed as endangered.

Distribution and Habitat. This species is found in prairie remnants along the Des Plaines River in Illinois, in soils over limestone substrate. It favors sites with a wet spring and fall and a dry summer (USFWS 1997).

Potential for Occurrence. There is no suitable habitat within the vicinity of the project for this species. Therefore, the leafy prairie-clover is not expected to occur within the project area.

Mead's Milkweed
Status. The Mead's milkweed (*Asclepias meadii*) is federally listed as threatened.

Distribution and Habitat. This milkweed formerly occurred throughout the eastern tallgrass prairie region of the central United States, from Kansas through Missouri and Illinois and north to southern Iowa and northwest Indiana. Mead's milkweed requires moderately wet to moderately dry upland tallgrass prairie or glade/barren habitat characterized by vegetation adapted for drought and fire. It persists in stable late-successional prairie (USFWS 2005b).

Potential for Occurrence. There is no suitable habitat within the vicinity of the project for this species. Therefore, Mead's milkweed is not expected to occur within the project area.

Prairie Bush Clover
Status. The prairie bush clover (*Lespedeza leptostachya*) is federally listed as threatened.

Distribution and Habitat. The prairie bush clover is endemic to the tallgrass prairie region of the upper Mississippi River Valley in the Midwestern United States (USFWS 2009).

Potential for Occurrence. There is no suitable habitat within the vicinity of the project for this species. Therefore, the prairie bush clover is not expected to occur within the project area.

The USACE determined that the construction and operation of the proposed project would have 'no effect' directly or indirectly on the following federal-listed species since these species are not expected to be within the vicinity of the proposed project due to lack of suitable habitat: piping plover, rufa red knot, eastern massasauga, Hine's emerald dragonfly, RPBB (see Terrestrial Communities above), eastern prairie fringed orchid, leafy prairie-clover, Mead's milkweed, and prairie bush-clover. With regard to the NLEB, there is potential for suitable summer habitat to be present within the vicinity of the proposed project, although surveys for bats have not been conducted on site. As NLEBs are found in Illinois, and as potential roosting trees are present in the project area, the USACE concludes that NLEBs may be present. As stated in the description of the tentatively selected plan, tree removal could be required on an as-needed basis, therefore, to minimize potential impacts to NLEBs that may be roosting within the vicinity of the project, tree removal would not be allowed to occur between April 1 and October 1.

In summary, the USACE determined that Alternative 1 would have 'no effect' directly or indirectly on the following federal-listed species since these species are not expected to be within the vicinity of the proposed project due to lack of suitable habitat:

- piping plover,
- rufa red knot,
- eastern massasauga,
- Hine's emerald dragonfly,
- RPBB,
- eastern prairie fringed orchid,
- leafy prairie-clover,
- Mead's milkweed, and
- prairie bush-clover.

With regard to the northern long-eared bat, the USACE determined that the proposed project would have "no effect" directly or indirectly on the species because tree clearing would be conducted outside of the active window of April 1 to October 1. Coordination with USFWS is ongoing, and USACE anticipates that USFWS will concur with the "no effect" determination.

No impacts to federal-listed species are anticipated under the no action alternative.

State

The Illinois Department of Natural Resources (IDNR) Ecological Compliance Assessment Tool (EcoCAT) was queried on December 14, 2020 for state-listed species that may be present within the vicinity of the project area (IDNR Project Number 2108558). The review resulted in no record of state-listed threatened or endangered species, Illinois Natural Inventory sites, dedicated Illinois Nature Preserves, or registered Land and Water reserves in the vicinity of the project location.

IDNR provided both a letter during the scoping period on December 14, 2020 in which the INDR concluded that they have no objection to the project. The Natural Resource Review Results letter generated from EcoCAT states that consultation is terminated and is valid for two years unless new information becomes available that was not previously considered.

3.4 Cultural & Social Resources

3.4.1 Cultural Resources

The USACE coordinated its environmental review of impacts on cultural resources for NEPA with its responsibilities to take into account effects on historic properties as required by Section 106 of the National Historic Preservation Act. The USACE determined and documented the area of potential effect (APE) for both direct and indirect effects, as required at 36 C.F.R § 800.4 of the regulations implementing Section 106. The APE includes the footprint of the proposed repair, and all staging and access areas.

The USACE conducted an archival review for the APE. The review revealed that there are no properties listed in the National Register of Historic Places. USACE has made a good faith effort to gather information from affected Tribes identified pursuant to 36 C.F.R.§ 800.3(f). The USACE notified the Citizen Potawatomi Nation of Oklahoma, the Forest County Potawatomi Community of Wisconsin, the Hannahville Indian Community of Michigan, the Kickapoo Tribe of Oklahoma, the Little Traverse Bay Bands of Odawa Indians of Michigan, the Menominee Indian Tribe of Wisconsin, the Miami Tribe of Oklahoma, and the Prairie Band Potawatomi Nation to assist in identifying properties which may be of religious and cultural significance. The Tribes did not comment on the undertaking.

The USACE made a reasonable and good faith effort to identify historic properties that may be affected by this undertaking. Due to the results of the archival research and previous disturbance in the project footprint, USACE determined there would be no historic properties affected by the proposed undertaking. The Illinois State Historic Preservation Office responded via letter on April 5, 2021 concurring with the finding of No Historic Properties Affected.

3.4.2 Recreation

The Village of Flossmoor has a number of recreational opportunities including 9 parks maintained by the Homewood-Flossmoor Park District. Additional nearby recreation opportunities include golf courses, forest preserves, Iron Oaks Environmental Learning Center, Bartel Grassland Land and Water Reserve, and Tinley Creek Model Airplane Flying Field.

Since the proposed project is confined to the roadway and parkway areas, Alternative 1 would have no direct or indirect short-term or long-term impacts to recreation within the project area.

No impacts to recreation are anticipated under the no action alternative.

3.4.3 Social Setting

The project area is located within the city limits of Flossmoor, Illinois. The U.S. Census Bureau's Quick Facts (U.S. Census Bureau 2021) for Flossmoor, Cook County, and Illinois were reviewed for socioeconomic information presented in Table 2.

Table 2: Vintage Year 2019 U.S. Census Data for Flossmoor, Cook County, Illinois.

Category	Flossmoor	Cook County	Illinois
Total Population	9,155	5,150,223	12,671,821
Under 18 years	23.2%	21.6%	22.2%
Under 5 years	9.2%	6.0%	5.9%
White	34.2%	65.4%	76.8%
Black or African American	62.1%	23.8%	14.6%

Category	Flossmoor	Cook County	Illinois
American Indian and Alaska Native	0.0%	0.7%	0.6%
Asian	2.2%	7.9%	5.9%
Native Hawaiian and Other Pacific Islander	0.2%	0.1%	0.1%
Hispanic of Latino	3.4%	25.6%	17.5%
Two or more races	1.1%	2.0%	2.1%
High School Graduate or Higher	98.2%	87.1%	89.2%
Bachelor's Degree or Higher	61.8%	38.8%	34.7%
Median Household Income	$115,288	$64,660	$65,886
Below Poverty Level	12.5%	13.0%	11.5%

In terms of social justice and evaluating potential impacts, it was analyzed if construction of the tentatively selected alternative would have a disproportionate impact to minorities, low-income households, or children (i.e., under the age of 18). To evaluate potential disproportional impacts to minority populations or to low-income households, socioeconomic data from Cook County and the State of Illinois was compared to socioeconomic data for the Village of Flossmoor.

Approximately 65.8% of the total population in the Village of Flossmoor is comprised of minority populations. Since the minority population exceeds 50 percent, this means that a significant minority population exists within the Village of Flossmoor. In addition, the minority population of the Village of Flossmoor exceeds Cook County (34.6%) and that for the State of Illinois (23.2%). While these percentages indicate that the tentatively selected alternative is being implemented in an area where there is a significant minority population, Alternative 1 is expected to have a beneficial impact to the Flossmoor community by reducing the risk of flooding due to construction of the new storm sewer trunk.

In terms of poverty, 12.5% of households in the Village of Flossmoor are below the poverty line, whereas an average of 13.0% of households in Cook County and 11.5% of households in the State of Illinois are below the poverty line. While these percentages indicate that more low-income households occur within the project area as compared to the State as a whole, the implementation of the tentatively selected alternative is not expected to have a disproportionate impact on low-income households. Alternative 1 is not expected to have a disproportionate impact since the tentatively selected alternative is expected to have an overall beneficial impact to the Flossmoor community by reducing flood risk.

Lastly, approximately 23.2% of the total population in the Village of Flossmoor is comprised of children under the age of 18. In comparison, approximately 21.6% of the total population in Cook County and 22.2% of the total population in Illinois is comprised of children under the age of 18. These percentages are within range of each other and do not indicate that there is a significantly higher percentage of children under age 18 within the project area as compared to the County and State. Therefore, Alternative 1 would have no disproportionate impact on children. The project is not expected to have a disproportionate impact since the tentatively selected alternative is expected to have an overall beneficial impact to the Flossmoor community by reducing flood risk.

Alternative 1 would have no direct or indirect short-term or long-term adverse impacts to the social setting within the area. Alternative 1 is expected to have a beneficial impact since with the implementation of the new storm sewer infrastructure is expected to reduce flood risk in the roadway and in adjacent residential areas. Alternative 1 would not have a disproportionate impact to minorities, low-income households, or children (i.e., under the age of 18).

The no action alternative could have a long-term adverse impact to the social setting within the project area due to continued flooding and the resulting property damage and safety concerns.

Other Social Effects

Potential impacts to other social effects such as security of life, health, and safety were also considered for the impact analysis. A proposed action could have a beneficial or adverse impact depending on if the proposed action 1) reduces/increases/does not change risk of flood, drought, or other disaster affecting the security of life, health, and safety; 2) reduces/increases/does not change the number of disease-carrying insects and related pathological factors; 3) reduces/increases/does not change the concentration and exposure to water and air pollution; and 4) reduces/increases/does not change to providing a year-round consumer choice of food that contributes to the improvement of national nutrition. Alternative 1 would potentially have a beneficial impact to life, health, and safety, by reducing the risk of flooding on roadways and adjacent residential properties.

3.5 Hazardous, Toxic, and Radioactive Waste (HTRW)

A Phase I Hazardous, Toxic, or Radioactive Waste (HTRW) investigation has been conducted for the project area in accordance with ASTM Practice E 1527-13 and USACE Engineer Regulation 1165-2-132. The investigation relies on site reconnaissance, visual observations, interviews with local officials, and a review of reasonably ascertainable environmental records, including database and IEPA Bureau of Land database research for regulated facilities, and historical aerial photographs to determine the likelihood that the project area contains a recognized environmental condition (REC), or HTRW. The Phase I ESA was conducted in general accordance with ASTM Standard Practice E-1527-13 and constitutes "all appropriate inquiry into the previous ownership and uses of the property consistent with good commercial or customary practice," as defined at 42 USC §9601(35) (B). No RECs were identified in the Phase I ESA. Excavation restrictions would be placed in the contract to prevent excavation beyond the investigated area.

In accordance with ER 1165-2-132, Hazardous Toxic, and Radioactive Waste for USACE Civil Works projects, construction of civil works projects in HTRW contaminated areas would be avoided where practicable. Where HTRW contaminated areas or impacts cannot be avoided, response actions must be acceptable to the EPA and applicable state regulatory agencies. Excess soil management and/or waste disposal would be conducted in accordance with Federal, State, and local laws and regulations. All HTRW response actions, including off-site disposal of materials containing CERCLA regulated substances, is 100% non-Federal project sponsor expense.

No impacts to HTRW contaminated areas are expected under the no action alternative.

3.6 17 Points of Environmental Quality

The 17 points are defined by Section 122 of the Rivers, Harbors and Flood Control Act of 1970 (P.L. 91-611) from (ER 1105-2-240 of 13 July 1978). Effects to these points are discussed as follows:

Noise – Alternative 1 includes the operation of construction equipment that would generate additional noises beyond ambient level, however, this would be short-term in duration lasting only as long as it takes to construct the project. Construction equipment would not be operated during the night, only during the day so as not to exceed night-time residential noise levels. Once construction is complete, the ambient noise level would return to what it was prior to project construction.

Displacement of People – Alternative 1 does not include the displacement of any residents.

Aesthetic Values – Alternative 1 would not have any long term negative aesthetic values. There are parks, golf courses, and forest preserves in the general vicinity of the project area, but no negative impacts to these places of aesthetic value are expected as a result of Alternative 1. There could be minor beneficial improvements to aesthetic values with the reduction in flooding, which can cause unsightly property damage.

Community Cohesion – Alternative 1 would not disrupt community cohesion.

Desirable Community Growth – Alternative 1 would have no adverse effect on desirable community growth.

Desirable Regional Growth – Alternative 1 would have no adverse or beneficial effect on regional growth.

Tax Revenues – Alternative 1 would have no adverse or beneficial effect on tax revenues.

Property Values – Alternative 1 would have no adverse on property values. Reduced flood risk to residential properties could have a beneficial effect on property values.

Public Facilities – Alternative 1 would have no adverse effect on public facilities.

Public Services – Alternative 1 would have no adverse effect on public services.

Employment – Alternative 1 may have a minor beneficial effect on employment in the area due to the need for construction workers to build the new storm sewer trunk.

Business and Industrial Activity – Alternative 1 would have no adverse or beneficial effect on business and industrial activity in the area.

Displacement of Farms – Alternative 1 would not displace farms because there are no farms within close proximity of the project area.

Man-made Resources – Alternative 1 would have no adverse or beneficial effect on man-made resources.

Natural Resources – Alternative 1 would have no adverse effect on natural resources since there are no natural areas within the proposed project area.

Air Quality – Alternative 1 would have a temporary negligible effect on air quality. Implementation of Alternative 1 would be *de minimis* in terms of Clean Air Act compliance. Temporary vehicle emission impacts, due to construction activities, would meet current federal regulations.

Water Quality – Alternative 1 would have no adverse or effect on water quality. There would be a beneficial improvement in that the risk of flooding would be reduced. Flood waters can transport debris to nearby waterways.

Table 3: Environmental Impact Summary

	Insignificant effects	Insignificant effects as a result of mitigations	Resource unaffected by action	Positive Effects
Aesthetics	☒	☐	☐	☐
Air quality	☒	☐	☐	☐
Aquatic resources/wetlands	☐	☐	☒	☐
Terrestrial communities	☐	☐	☒	☐
Invasive species	☐	☐	☒	☐
Threatened/Endangered species/critical habitat	☐	☐	☒	☐
Historic properties	☐	☐	☒	☐
Other cultural resources	☐	☐	☒	☐
Floodplains	☐	☐	☒	☐
Hazardous, toxic & radioactive waste	☐	☐	☒	☐
Hydrology	☐	☐	☐	☒
Land use	☐	☐	☒	☐
Navigation	☐	☐	☒	☐
Noise levels	☒	☐	☐	☐
Public infrastructure	☐	☐	☐	☒
Socioeconomics	☐	☐	☐	☒
Environmental justice	☐	☐	☐	☒
Soils	☒	☐	☐	☐
Tribal trust resources	☐	☐	☒	☐
Water quality	☐	☐	☒	☐
Climate change	☐	☐	☒	☐

3.7 Irreversible and Irretrievable Commitment of Resources

The tentatively selected alternative would not entail significant irretrievable or irreversible commitments of resources. Long-term sustainability actions were included for the benefit of environmental resources.

3.8 Short-term Use of Man's Environment and Maintenance of Long-term Productivity

NEPA, Section 102(2)(C)(iv) calls for a discussion of the relationship between local short-term uses of man's environment and maintenance and enhancement of long-term productivity in an environmental document. The short-term use of man's environment would consist of disturbances including construction noise, minor traffic disruptions, and visual impacts.

The negative short-term effects resulting from the tentatively selected plan are of minor concern when compared with the positive long-term benefits that would enhance and maintain long-term productivity. Long-term reduction of flooding would create a less hazardous place for residents and would reduce the risk to motor vehicles, including emergency vehicees, since they would not be as likely to encounter flooded roadways.

Under the no action alternative, no project would be implemented, therefore, the risk of flooding would not be reduced.

CHAPTER 4 – COORDINATION

Coordination with Federal and state agencies, tribal organizations, and other stakeholders was conducted as set forth in policy. The following describes coordination, including scoping, that has occurred. The NEPA scoping process extended from December 7, 2020 through January 7, 2021. For correspondence regarding coordination refer to Appendices A-C.

4.1 U.S. Fish and Wildlife Service

The USACE accessed the USFWS IPaC website on February 10, 2021 to determine whether endangered, threatened, proposed, or candidate species could potentially be present in the action area, and if the action area overlapped with any designated or proposed critical habitat (Consultation Code 03E13000-2021-SLI-0346) (Appendix A). The results of the IPaC search are shown Section 3.3.3 under the subheading Federal. The USACE used best available information to evaluate whether the species on the IPaC list would be potentially affected by the action. Due to the project occurring in an area where there is no suitable habitat present for the identified species, the USACE determined the action would have "no effect" to federally listed species. The exception is the NLEB which could be present, but would not be affected because tree clearing would not be conducted between April 1 and October 1 in order to the active season for the NLEB. During the NEPA scoping process the USFWS was sent a letter requesting comments or concerns about potential impacts from the currently proposed project. The USFWS responded via email (December 14, 2020) that a portion of the proposed project is within an area mapped as HPZ for RPBB. They go on to state that not all areas within the HPZ provide suitable habitat for the RPBB including:

- permanently flooded areas/open water;
- paved areas;
- areas planted to annual row crops, such as corn and soybeans;
- forest where invasive shrubs are dominant and spring ephemeral flowers are absent; and,
- areas mowed too frequently to allow development of diverse wildflower resources (e.g., road shoulders).

Since the project area is contained within paved and mowed area (roadway and parkway) tentatively selected alternative is not expected to have any direct or indirect short-term or long-term adverse impacts to RPBB. The USFWS letter states that they will respond to the USACE request to review the NEPA documents when they are complete.

4.2 State Historic Preservation Office

The USACE submitted a finding of No Historic Properties Affected to the Illinois State Historic Preservation Office on March 3, 2021. The Illinois State Historic Preservation Office responded via letter on April 5, 2021 concurring with the finding of No Historic Properties Affected.

4.3 Tribal Coordination

During the scoping period coordination letters were sent to the follow tribal organizations: Hannahville Potawatomi Tribal Council, Miami Tribe of Oklahoma, Prairie Band Potawatomi Tribal Council, Prairie Band Potawatomi Nation, Kickapoo Tribe of Oklahoma, Menominee Indian Tribe of Wisconsin, Citizen Potawatomi Executive Council, Forest County Potawatomi Executive Council, and Little Traverse Bay Bands of Odawa Indians, Michigan.

The Citizen Potawatomi Nation provided a response to the USACE's NEPA scoping process via email on January 19, 2021. The response stated that the undertaking referenced in the USACE scoping letter will not impact any known Potawatomi sites. The response states that there is always the possibility of inadvertent discoveries being made during construction, and that if inadvertent discovery of human remains or artifacts are made please cease all activities at the site and notify their office immediately.

4.4 Illinois Department of Natural Resources

The IDNR was consulted and provided a response to the USACE's NEPA scoping process via a letter dated December 14, 2020. The letter said that the IDNR does not have any objections to the proposed project.

CHAPTER 5 - BIBLIOGRAPHY

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Appendix A: Scoping Coordination

Appendix B: Figures

Appendix C: Draft EA Coordination